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1994/08/00

## CHINA'S SPACE INDUSTRY

### Issues and Background

#### Commercial Space Launch

China is emerging as a contender in the international commercial space launch market, particularly for Asian and other Third World customers, and currently holds a 13 percent share of the market, based on the backlog of satellite launches as of March 1994. China Great Wall Industry Corporation (CGWIC)—the commercial marketing arm of the China Aerospace Industry Corporation which conducts all commercial launches—has contracts to launch three foreign satellites by yearend, with at least four more commercial contracts for launches through 1996. China this year signed contracts with US firms Echostar and Hughes for as many as 17 launches and options over the next 12 years.

China plans to carve out a larger niche in part by expanding the family of launch vehicles and types of services it has to offer and improving their reliability. We estimate, based on press reports, that Beijing will allocate roughly \$800 million through the end of the decade for designing and building new SLVs and satellites. Beijing plans to introduce two new SLVs by 1996, and China early this year successfully conducted the maiden launch of its the Long March 3A, its newest space launch vehicle.

China's entry into the commercial market in 1989 was enabled by signing the Sino-US Space Launch Accord, which stipulated that China price its launches "on a par" with comparable Western launch services, and imposed a quota of nine launches over the life of the agreement. The Chinese are eager to begin negotiations on renewal of the agreement, which expires at yearend. Despite the pricing provision in the agreement, CGWIC has continued to employ aggressive pricing tactics to win contracts—bidding typically 15 to 40 percent below Western market prices—which has been China's main attraction for foreign customers. Indeed, each of the launches contracted for this year were priced at least 20 percent below typical Western bids for comparable services.

CGWIC, however, will need to display reliability as a launch services provider, regardless of its competitive prices, before it can substantially increase its share of the international launch market. Since China entered the international market in 1989, several failed launches—including the 1992 Optus B2 launch and the launch last summer of a Chinese photoreconnaissance satellite—as well as an explosion in April of this year, which destroyed a Chinese meteorological satellite and severely damaged the Xichang launch site's satellite processing facility, have tarnished its relatively short track record.

#### Satellite Development

China's domestic satellite manufacturing industry plans not only to be able to produce indigenously its own satellites, but also to enter the commercial satellite market within the next five years. China plans to launch in the next year a new telecommunications satellite, Dong Fang Hong 3 (DFH-3). China's satellite industry has worked with the US, Japan, and Germany

on designing and manufacturing its latest telecommunications satellite. China's recently established joint venture with Germany's Deutsche Aerospace AG (DASA), EurasSpace will help China finish development of the DFH-3 telecommunications satellite and will jointly develop follow-on satellites. The deal is potentially worth \$140 million per year for the next eight to ten years.

**US Angle.** US launch service providers face increasingly stiff competition in the international market, especially as China's low bids boost its market share. The expiration in December 1994 of the Sino-US Space Launch Accord undoubtedly is cause for concern among Chinese space officials who wish to maintain the pricing flexibility they believe is necessary to compete internationally.

At the same time, the Chinese recognize US satellite technology as top notch. Although China has turned to Germany's Deutsche Aerospace as a cooperative partner in developing China's domestic communications satellite while under the current US missile-proliferation related sanctions, the Chinese typically prefer US satellite technology over that from European competitors.